## PART I - ADMINISTRATIVE

## Section 1. General administrative information

FET* 4 T	e		• 4
TITLE	Λt	nro	IPCT
Title	OI.	PIV.	JULI

Lake Creek Land Acquisition And Enhancement

**BPA project number:** 9004401

Business name of agency, institution or organization requesting funding

Coeur d'Alene Tribe

Business acronym (if appropriate) CD'A Tribe

# Proposal contact person or principal investigator:

Name Kelly Lillengreen

Mailing Address P.O. Box 408

City, ST Zip Plummer, Idaho 83851

Phone (208) 686-5302 Fax (208) 686-3021

Email address kellylil@iea.com

# NPPC Program Measure Number(s) which this project addresses

Sections 11.3F.3, 10.8B, 10.8B.20, 10.8B.21, 10.1, 10.1A, 10.1B

## FWS/NMFS Biological Opinion Number(s) which this project addresses

### Other planning document references

CBFWA Multi Year Implementation Plan, Coeur d'Alene Tribe Project Management Plan, Lake Creek Watershed Assessment, Albeni Falls Wildlife Protection, Mitigation, and Enhancement Plan (DOE/BP-36154-1), Albeni Falls Wildlife Management Plan: Final EIS (DOE/EA-2939), BPA Wildlife Mitigation Program: Final EIS (DOE/EIS-0246)

### **Short description**

Protect, enhance, and maintain wetland and riparian habitat in the Lake Creek drainage as partial mitigation for the impacts attributed to the construction and operation of the Albeni Falls hydroelectric facility.

# Target species

This project will target species used to assess the impacts of Albeni Falls Dam. This will include mallard duck, canada goose, bald eagle, black-capped chickadee, white-tailed deer, muskrat, and yellow warbler.

# Section 2. Sorting and evaluation

## Subbasin

Upper Columbia River Basin: Coeur d'Alene Subbasin

## **Evaluation Process Sort**

CBFWA caucus	<b>Special evaluation process</b>	ISRP project type
	If your project fits either of	
Mark one or more	these processes, mark one	
caucus	or both	Mark one or more categories
☐ Anadromous	☐ Multi-year (milestone-	☐ Watershed councils/model
fish	based evaluation)	watersheds
Resident fish	☐ Watershed project	☐ Information dissemination
Wildlife     Wildlife	evaluation	Operation & maintenance
		☐ New construction
		Research & monitoring
		☐ Implementation & management
		☐ Wildlife habitat acquisitions

# Section 3. Relationships to other Bonneville projects

Umbrella / sub-proposal relationships. List umbrella project first.

Project #	Project title/description
9004400	Implement Fisheries Enhancement Opportunities: Coeur D'alene
	Reservation
9004401	Lake Creek Land Acquisition
9004402	Coeur d'Alene Tribe Trout Production Facility

# Other dependent or critically-related projects

Project #	Project title/description	Nature of relationship	
9004400	Implement Fisheries Enhancement	This project focuses on the	
	Opportunities: Coeur d'Alene	protection and restoration of four key	
	Reservation	watersheds on the Reservation. Lake	
		Creek is one of these drainages. All	
		activities will complement ongoing	
		fisheries habitat restoration efforts in	
		the drainage.	

9206100	Albeni Falls Wildlife Mitigation	This project is an umbrella project	
	Project	submitted by the Albeni Falls	
		Interagency Workgroup (Coeur	
		d'Alene Tribe is a member). This	
		project specifically targets in-kind	
		wetland and riparian habitats	
		impacted by Albeni Falls Dam.	

# Section 4. Objectives, tasks and schedules

# Past accomplishments

Year	Accomplishment	Met biological objectives?
1999	Complete Acquisition of Property	Protected baseline habitat units (~760).
1999	Protection of Project Lands	Maintained baseline HU's.

# Objectives and tasks

Obj		Task	
1,2,3	Objective	a,b,c	Task
1	Protect and maintain the baseline	a	Maintain and construct new and
	habitat units on the project site.		existing fences to secure the
			property from livestock trespass,
			identify the project boundary, and
			control public access.
		b	Apply appropriate maintenance
			activities necessary to protect
			existing site conditions and to
			prevent any decline in baseline
			habitat units. All activities will be
			consistent with the O&M guidelines
			document prepared by the CBFWA
			Wildlife Managers.
		c	Use adaptive management principles
			to address unforseen management
			concerns and needs.
		d	Consult and coordinate land
			management activities with
			NWPPC, BPA, CBFWA, Albeni
			Falls Work Group, local

			governments, and the public.
2	Assess the quality and quantity of	a	Use Habitat Evaluation Procedures
2	existing habitat on project site.	a	(HEP) to calculate existing baseline
	existing habitat on project site.		habitat units (HU's) for the target
			species indicated.
		b	Credit BPA for the number of
		U	baseline HU's identified in task "a"
3	Develop and begin to implement	a	Use HEP results to help develop a
3	a long-term management strategy	a	management plan that addresses any
	for the project area.		critical habitat deficiencies on the
	for the project area.		site and identifies a desired future
			condition.
		b	Identify additional on-site habitat
		l b	deficiencies and enhancement
			opportunities not previously
			identified through HEP.
		С	Implement enhancement activities as
			identified in a management plan.
		d	Design a long-term monitoring and
		u	evaluation plan to determine the
			effectiveness of land management
			activities on both habitat and species
			specific populations.
4	Public Outreach	a	Identify and negotiate with willing
4	Fublic Oddieach	а	landowners throughout the Lake
			Creek drainage to identify future
			opportunities to expand the existing
			project and to compliment other
			existing efforts in the drainage.
		b	Coordinate mitigation efforts with
			other agencies and public
			<u> </u>
			=
		C	
			<u> </u>
			_
		С	organizations including the Idaho Department of Fish and Game, Kootenai County, local conservation groups, the Lake Creek Watershed Work Group, and private land holders.  Educate the local public on the role that fish and wildlife mitigation projects play in protecting and enhancing fish and wildlife habitat on the Reservation and on the importance of protecting and conserving existing habitat.

# Objective schedules and costs

Obj#	Start date mm/yyyy	End date mm/yyyy	Measureable biological objective(s)	Milestone	FY2000 Cost %
1	3/2000	3/2001	The baseline HU's		25.00%
			associated with the		
			project will be		
			maintained and		
			protected from decline.		
2	6/2000	11/2000	Baseline HU's will be	X	15.00%
			identified and credited		
			to BPA.		
3			A plan describing a	X	50.00%
			desired future condition		
			will be identified		
			including potential		
			enhancement activities		
			and associated HU's.		
			Species and habitat		
			response to project		
			activities will be		
			monitored.		
4	3/2000	3/2001	Identification of project		10.00%
			expansion opportunities		
			and potential HU's to be		
			protected.		
				Total	100.00%

## **Schedule constraints**

Implementation of this project may be limited by the ability to secure funding from BPA. Delays may also arise from seasonal weather constraints. The ability to find willing landowners may also limit project expansion opportunities.

# **Completion date**

Enhancements should be completed by 2005. Operation and maintenance activities will be required for the life of the project (in perpetuity).

# Section 5. Budget

FY99 project budget (BPA obligated): \$186,082

# FY2000 budget by line item

		% of	
Item	Note	total	FY2000
Personnel	1FTE Biologist, .5FTE Technician,	%34	47,568

	.07FTE G.I.S.		
Fringe benefits	40%	%14	19,028
Supplies, materials, non-	Maps, Film, Printing & Copying,	%9	13,000
expendable property	Communications, Office Supplies,		
	etc.		
Operations & maintenance	Field Equipment, Vehicle Costs,	%14	20,000
	etc.		
Capital acquisitions or		%0	
improvements (e.g. land,			
buildings, major equip.)			
NEPA costs		%0	
Construction-related		%0	
support			
PIT tags	# of tags:	%0	
Travel		%2	3,500
Indirect costs	31.6%	%24	33,719
Subcontractor		%0	
Other		%3	3,608
	\$140,423		

# Cost sharing

Organization	Item or service provided	% total project cost (incl. BPA)	Amount (\$)
		%0	
		%0	
		%0	
		%0	
	Total project cost (inclu	iding BPA portion)	\$140,423

# Outyear costs

	FY2001	FY02	FY03	FY04
Total budget	\$150,000	\$157,500	\$165,375	\$173,644

# Section 6. References

Wat	tershed?	Reference
	$\boxtimes$	Coeur d'Alene Tribe Fish, Water, and Wildlife Program, 1998. Lake Creek
		Watershed Assessment. Environmental Protection Agency. 27pp
	$\boxtimes$	Bauer, S.B. 1998. Lake Creek 1996 interim monitoring report, Kootenai
		County, Idaho. Kootenai-Shoshone Soil Conservation District. Coeur
		d'Alene, Idaho. 27pp.

	Kootenai-Shoshone Soil Conservation District. 1991. Agricultural Pollution Abatement Plan, Lake Creek Watershed. Final Planning Report. USDA Soil Conservation Service. Coeur d'Alene, Idaho.
$\square$	Lillengreen, K., A.J. Vitale, R. Peters. 1998. Coeur d'Alene Tribe Project
	Management Plan- Enhancement of Resident Fish Resources within the
	Coeur d'Alene Indian Reservation. Project Number 90-044. Bonneville
	Power Administration. Portland, Oregon.
	Lillengreen, K., A.J. Vitale, R. Peters. 1996. Fisheries habitat evaluation on
	tributaries of the Coeur d'Alene Indian Reservation: 1993, 1994 Annual
	Report. Project Number 90-044. Bonneville Power Administration. Portland,
	Oregon.  Lillangran V.I. T. Skillingstod, A.T. Saholz, 1004, Eighariag habitat
	Lillengreen, K.L., T. Skillingstad, A.T. Scholz. 1994. Fisheries habitat
	evaluation on tributaries of the Coeur d'Alene Indian Reservation: Annual
	Report, 1992. Project Number 90-044. Bonneville Power Administration.
<u> </u>	Portland, Oregon.
	Lillengreen, K.L., D.C. Johnson, A.T. Scholz. 1993. Fisheries habitat
	evaluation on tributaries of the Coeur d'Alene Indian Reservation: Annual
	Report, 1991. Project Number 90-044. Bonneville Power Administration.
<u> </u>	Portland, Oregon.
	Graves, S., et al. 1992. Fisheries habitat evaluation on tributaries of the
	Coeur d'Alene Indian Reservation: Annual Report, 1991. Project Number 90-
	044. Bonneville Power Administration. Portland, Oregon.
	Bonneville Power Administration. 1997. Wildlife Mitigation Program: Final
	Environmental Impact Statement. DOE/EIS-0246, Bonneville Power
	Administration, Portland, Oregon.
	Martin, R.C., et al. 1988. Albeni Falls Wildlife Protection, Mitigation, and
	Enhancement Plan. Project Number 87-43. Bonneville Power
	Administration, Portland, Oregon.
	Bonneville Power Administration. 1996. Albeni Falls Wildlife Management
	Plan: Final Environmental Assessment. DOE/EA-2939. Bonneville Power
	Administration, Portland, Oregon.
	Columbia Basin Fish and Wildlife Authority Wildlife Managers. 1998.
	Guidelines for Enhancement, Operation, and Maintenance Activities for
	Wildlife Mitigation Projects. Columbia Basin Fish and Wildlife Authority,
	Portland, Oregon.

# **PART II - NARRATIVE**

# Section 7. Abstract

This project is part of an ongoing effort by the Coeur d'Alene Tribe and the Bonneville Power Administration to protect, enhance, and maintain high value fish and wildlife habitat in the Lake Creek Watershed. The project involves the enhancement and longterm operation and maintenance of approximately 70 acres of emergent wetlands at the mouth of Lake Creek and 180 acres of associated forested/riparian wetlands. This area is one component of a recent 2100 acre acquisition that was funded by the Bonneville Power Administration to partially mitigate for resident fish and wildlife losses attributed to the Grand Coulee and Albeni Falls hydroelectric facilities. All activities on the project site complement ongoing habitat restoration work in the Lake Creek Watershed and help to establish a precedent for watershed management efforts on the Reservation. The enhancement and protection of wetland, riparian, and upland areas will provide measurable improvements in channel stability, sediment abatement, water quality, habitat availability, and suitability for wildlife and fish.

The Lake Creek watershed provides valuable habitat for populations of black bear, moose, elk, white-tailed deer, muskrat, Canada geese, mallards, bald eagles, black-capped chickadees, westslope cutthroat trout, bull trout, and many species of song birds and other non-target wildlife species. BPA will receive wildlife credit for the baseline habitat units associated with the 250 acre project site. Additional habitat units will be gained as a result of susbequent enhancement efforts. These credits will be determined through the application of Habitat Evaluation Procedures. All baseline and enhancement HU's will be protected and maintained through long-term operation and maintenance efforts. Wildlife benefits derived from this project will help address habitat losses attributed to the construction and operation of Albeni Falls Dam. Benefits to resident fish will partially mitigate for Coeur d'Alene Tribal subsistence losses related to the construction and operation of Grand Coulee Dam. A long term monitoring and evaluation plan will be developed to assess habitat and species response to land management activities.

# Section 8. Project description

## a. Technical and/or scientific background

The construction and operation of Albeni Falls Dam resulted in the estimated loss of 6,617 acres of wetland habitat and the inundation of 8,900 acres of deep water marsh. Under direction of the Northwest Electric Power Planning and Conservation Act of 1980, and the subsequent Northwest Power Planning Council's Columbia River Basin Fish and Wildlife Program, a wildlife impact assessment was completed for the facility (Martin et al. 1988). Standardized Habitat Evaluation Procedures (HEP) were used to express the losses in terms of the quality and quantity of the habitat impacted. Eight evaluation species were selected with the impacts being expressed in terms of habitat units (HU's). A summary of the assessment findings and a description of the methodology used for the assessment can be found in the, "Albeni Falls Wildlife Protection, Mitigation and Enhancement Plan" (Martin et al. 1988). A net loss totaling 28,587 HU's was identified through the assessment.

Section 11.1 of the Columbia River Basin Fish and Wildlife Program (1995 amendments) states that the goal of the program's wildlife strategy is to achieve and sustain levels of habitat and species productivity as a means of fully mitigating wildlife losses caused by the construction and operation of the federal and non-federal hydroelectric system. The Lake Creek Land Acquisition and Enhancement project is one of many ongoing efforts directed at

mitigating the losses attributable to Albeni Falls Dam. The primary focus of the project is to protect and replace in-kind riparian and wetland habitat types.

In 1987, the Northwest Power Planning Council amended the Columbia River Basin Fish and Wildlife Program and recommended that the Bonneville Power Administration (BPA) fund a baseline stream survey of tributaries located on the Coeur d'Alene Indian Reservation and provide recommendations on ways to improve the fisheries for the Coeur d'Alene Tribe. Habitat evaluations and fish population surveys were conducted from 1990 through 1994. Four years of data were collected and analyzed to help illustrate fish and macroinvertebrate population distribution and abundance. In-stream and riparian habitats were quantified and evaluated with limiting factors relating to land use patterns being identified. A series of BPA technical reports (identified in references) have been published that summarize the results of the assessment efforts. Limiting factors analysis was then used in conjunction with existing data on land use and vegetative coverage for the watersheds to identify high priority areas for treatment and conservation. These reports concluded that the acquisition and protection of sensitive watershed areas would be a priority for implementing effective restoration efforts.

In 1995, the Northwest Power Planning Council adopted the recommendations set forth by the Coeur d'Alene Tribe to improve the Reservation fishery. These actions included: 1.) Implement habitat restoration and enhancement measures in Lake, Benewah, Evans and Alder creeks; 2.) Purchase critical watershed areas for protection of fisheries habitat; 3.) Conduct an educational/outreach program for the general public within the Coeur d'Alene Reservation to facilitate a "holistic" watershed protection process; 4.) Develop an interim fishery for tribal and non-tribal members of the Reservation through construction, operation and maintenance of trout ponds; 5.) Design, construct, operate, and maintain a trout production facility; and 6) Implement a five-year monitoring program to evaluate the effectiveness of the hatchery and habitat improvement projects.

In 1995, the Northwest Power Planning Council also adopted the following language "Conduct a NEPA analysis, a habitat analysis, and a land value appraisal of a 2,100 acre wetland/riparian and associated upland parcel in the Lake Creek drainage and Windy Bay area of Lake Coeur d'Alene. This is to be credited for: 1) 250 acres of wildlife habitat losses due to Albeni Falls dam on Lake Pend Orielle (off-site, in-kind mitigation) and 2.) as a resident fish substitution for extensive salmon losses due to Grand Coulee Dam". The program also recommended that BPA purchase the property, begin habitat enhancement activities, and initiate long-term operation and maintenance and monitoring and evaluation.

This project represented an opportunity to protect and enhance the lower reaches of the Lake Creek Watershed. Lake Creek drains 23,117 acres, and empties into Windy Bay at the southwest end of Lake Coeur d'Alene. The watershed provides valuable habitat for populations of black bear, moose, elk, white-tailed deer, muskrat, Canada geese, mallards, westslope cutthroat trout, bull trout, and many species of song birds as well as non-target wildlife species.

The Coeur d'Alene Tribe Fish, Water, and Wildlife Program conducted an assessment of the Lake Creek Watershed to establish the present condition of the drainage with respect

to the physiographic setting, erosion, sediment transport, hydrology, and fish and wildlife habitat (Coeur d'Alene Tribe Fish, Water, and Wildlife Program, 1998). This assessment identifies the existence of approximately 95 total miles of stream channel and associated riparian corridors within the Lake Creek drainage. A review of the Tribal G.I.S. database indicates that there are approximately 364 acres of existing wetlands within the watershed, of which 214 acres (59%) occur within the boundary of the Reservation. Hydric soils coverages created by the Tribal G.I.S. Department suggests that there were approximately 464 historical wetland acres that occurred within that portion of the Lake Creek Watershed that lies on the Coeur d'Alene Indian Reservation. This suggests an estimated loss of 46% of the historical wetland acreage.

Currently, 169 (~46%) of the 364 wetland acres in the Lake Creek Watershed occur on pasture land. The existence of these wetlands in grazed areas makes them highly susceptible to destruction, and as a result, a high priority for protection. A recent ground truthing effort has indicated that approximately 120 of the 364 total wetland acres (~33%) currently existing in the Lake Creek Watershed occur within the 2100 acre mitigation parcel. In addition, approximately 9 miles of riparian corridor lies within the same 2100 acre parcel. Thus, the Lake Creek Land Acquisition and Enhancement project is protecting a significant portion of the wetland and riparian habitat in the Lake Creek Watershed.

Continued implementation, operation, and maintenance of the Lake Creek Land Acquisition and Enhancement project will help in the protection and enhancement of a key watershed on the Coeur d'Alene Reservation. In addition, this project specifically targets in-kind riparian and wetland habitat types similar to those directly impacted by the construction and operation of Albeni Falls Dam. Table 11-2 of Section 11.2E of the Columbia River Basin Fish and Wildlife Program identifies riparian and wetland habitats as the highest priority for mitigation efforts in the Upper Columbia Subbasin. The remaining wetlands and riparian corridors in the Lake Creek Watershed are the highest priority for future efforts to expand the Lake Creek Land Acquisition and Enhancement wildlife mitigation project. Funding limitations and the availability of willing landowners will influence the success of the project expansion efforts.

## b. Rationale and significance to Regional Programs

Lake, stream, and wildlife resources formed the heart of the Reservation and have shaped the Tribal culture from time immemorial. The annual runs of anadromous salmon and steelhead are now extinct from traditional Coeur d'Alene Tribal fishing areas. Dams were constructed on the Spokane River at Monroe Street in the City of Spokane and Little Falls farther downstream which initially cut-off the anadromous fish runs from the Coeur d'Alene Tribe. These fisheries were further removed by the construction of Chief Joseph and Grand Coulee Dams. This forced the Tribe to rely solely on resident fish and wildlife resources. Subsequent declines in wildlife resources and native salmonid fish stocks have had significant impacts on the traditional subsistence lifestyle of Coeur d'Alene Tribal members.

Adfluvial cutthroat trout and bull trout are species of special concern throughout the region. The status of westslope cutthroat trout as threatened or endangered over its entire range is currently under review by the U.S. Fish and Wildlife Service. Upper Columbia population segments of bull trout are listed as threatened under the Endangered Species Act. Land use in the Lake Creek drainage consists primarily of managed forest (60%), agriculture (36%), and grazed pasture (3%). Furthermore, approximately 80 percent of land ownership within the watershed consists of small (<400 acres) private lots. All current land management practices exert some adverse impact on fish and wildlife populations. Over harvest and a lack of education in regards to native species conservation have contributed to recent declines in population numbers. Because of the severity of habitat loss and a checkerboard ownership pattern, fish and wildlife habitat restoration efforts must be approached on a watershed scale. Three life history stages, juvenile rearing, lake residence, and adult spawning have been identified as critical in determining survivability of adfluvial cutthroat stocks. The linkages between habitat quality and critical life history stages are the focus for rebuilding sustainable and harvestable populations of these native resident fish species.

The Bonneville Power Administration has committed itself to protecting and enhancing native fish and wildlife habitat on the Coeur d'Alene Indian Reservation as a means of partially mitigating the impacts of the Columbia River Hydroelectric System. Section 10.1 of the NPPC resident fish mitigation program emphasizes the long-term sustainability of native fish in native habitats. Implementation of the resident fish program is to be done in a manner that promotes comprehensive and cooperative watershed management; ecosystem diversity; productivity and stability as integral components of fish management strategies. The conservation of natural genetic diversity within native resident fish species, subspecies, and unique stocks must be an underlying principle in this effort (Section 10.1A).

Section 11.1 of the Columbia River Basin Fish and Wildlife Program states that the goal of the program's wildlife strategy is to achieve and sustain levels of habitat and species productivity as a means of fully mitigating wildlife losses caused by the construction and operation of the federal and non-federal hydroelectric system. The Lake Creek Land Acquisition and Enhancement project is one of many ongoing efforts directed at mitigating the losses attributable to Albeni Falls Dam. The primary focus of the project is on protecting and replacing in-kind riparian and wetland habitat types that were impacted by the Albeni Falls Hydroelectric Project.

This proposal is based on a watershed management concept, and will assist in equally protecting and enhancing both fish and wildlife resources throughout an entire watershed. It is also an opportunity to continue promoting the concept of a watershed approach for the Lake Creek drainage. In the upper watershed, the Natural Resource Conservation Service is implementing a major water quality enhancement program funded through the State Agricultural Water Quality Program, which targets agricultural ground. The Coeur d'Alene Tribe is also cooperating with the Environmental Protection Agency and the Department of Environmental Quality in implementing non-point source pollution abatement projects through section 319 of the Clean Water Act.

## c. Relationships to other projects

Acquisition and enhancement of land in the Lake Creek Watershed will incorporate collaborative efforts with private landowners, industry and other agencies. Many of the current restoration activities in the Lake Creek Watershed are being conducted on private land within the Reservation boundaries and have resulted in long-term landowner contracts and/or conservation easements. The Coeur d'Alene Tribe has taken the lead in forming a watershed work group in the Lake Creek Watershed to serve as an educational forum that will encourage long-term support from private landowners, local governments, local conservation groups, and the timber industry. This group is tasked with identifying issues of concern related to natural resource management and with developing work plans to address these issues. Local school districts are participating in program sponsored outreach efforts and often donate time and labor at restoration sites. Washington State University, through its environmental projects program, has participated in implementing individual restoration projects.

Implement Fisheries Enhancement Opportunities: Coeur d'Alene Reservation (9004400) Wildlife mitigation efforts are closely linked to ongoing resident fish mitigation activities that are occurring on the Reservation. The Coeur d'Alene Tribe is implementing habitat enhancement projects, managing interim harvest opportunities, and integrating restoration activities into local school curriculum (NWPPC Program Measures 10.8B.4). The overall objectives are to increase production of resident westslope cutthroat and bull trout in four target watersheds by removing and mitigating the causes of habitat degradation. Off site harvest opportunities are provided to reduce pressure on target stocks and restoration activities are integrated with area schools to encourage future protection and enhancement.

Fish, Water, and Wildlife staff used watershed analysis techniques to identify priority areas for restoration by examining physical and chemical limiting factors, as well as the abundance and distribution of target species. The analysis identified four target areas on the Reservation that would be the primary target of fisheries restoration efforts. These drainages included the Lake Creek, Benewah Creek, Alder Creek, and Evans Creek watersheds.

Initial restoration plans were developed in 1995 to begin addressing the fisheries habitat needs in the four target drainages. These projects call for passive restoration of habitat, using riparian exclosure fencing as a primary method. Active restoration using plantings, off-site water developments, and instream structures are also utilized where appropriate. A Tribal fisheries management plan (1997) provides guidance for uniform evaluation, implementation and monitoring of projects. Projects planned for each target watershed are submitted to BPA for supplemental analysis under the watershed management program EIS. Enhancement progress is monitored by measuring standardized habitat variables at individual project sites and by tracking trends in population abundance and distribution. Participating landowners sign contracts to ensure long-term commitment to cost sharing, project maintenance and monitoring.

To date, fisheries habitat restoration efforts in the Lake Creek Watershed have resulted in the construction and enhancement of six acres of wetland habitat and the planting of more than 8,500 native riparian trees and shrubs. In addition, protection easements have been secured for approximately 1½ miles of riparian corridor, all of which lie in the upper 1/3 of the watershed. These activities will help contribute to the overall goal of maintaining and enhancing the integrity of the Lake Creek Watershed.

#### Water Resources

The EPA is working with the Water Resources Division of the Coeur d'Alene Tribe Fish, Water, and Wildlife program under sections 319 and 106 of the Clean Water Act to reduce non-point source pollution and to gather baseline water quality data in the watershed. Implementation priorities for this program are 1.) The reduction of sediment outputs from agricultural sheet and rill erosion; 2.) The restoration of riparian zones and increasing of streambank canopy cover; 3.) The augmentation of base flows of Lake Creek and its tributaries with water retention structures; and 4.) The mitigation of flow disturbances and sedimentation due to forest roads.

Additionally, local soil conservation districts have received State Agricultural Water Quality Program (SAWQP) grants to fund projects that reduce non-point source pollution from cropland erosion. The Kootenai-Shoshone Soil Conservation District recently enrolled 55% of the Lake Creek agricultural acreage within Idaho into the State Agricultural Water Quality Program (SAWQP). This commits watershed producers to a variety of agricultural BMP's including conversion to bluegrass. The majority of the contracts written are in their first two years of a five-year implementation plan. As the contracts are completed, the Lake Creek watershed should receive reduced sediment loads from sheet and rill erosion on cropland. Tribal Fish, Water, and Wildlife Program staff are coordinating fish and wildlife habitat restoration efforts with this agency so that critical areas receive priority treatment.

#### Albeni Falls Wildlife Mitigation Project (9206100)

The Idaho Department of Fish and Game and the Kalispel Tribe are currently implementing projects that are directed at mitigating losses associated with Albeni Falls Dam. The majority of these projects are focusing on wetland and riparian habitat types similar to those destroyed by the construction and operation of the facility. Most recently, substantial effort was made to form the Albeni Falls Interagency Work Group in hopes of providing a unified approach to all mitigation for the Albeni Falls facility. This work group is operating under the auspices of the "Albeni Falls Interagency Work Group: Operating Guidelines and Guiding Principles for Mitigation Implementation Agreement". This work group is composed of a core group of members that is inclusive of the Coeur d'Alene Tribe, Idaho Department of Fish and Game, Kalispel Tribe, Kootenai Tribe, and the U.S. Fish and Wildlife Service. Other agencies participating in the work group include the U.S. Army Corps of Engineers, Natural Resource Conservation Service, The Nature Conservancy, Ducks Unlimited, and other non-profit organizations. All future mitigation projects to be credited to Albeni Falls Dam will be reviewed, ranked, and prioritized at the local level by the work group (an Interagency

team of biologists) to ensure consistency with local goals and objectives for mitigation prior to submittal to the regional level for review by the CBFWA, ISRP, and the NPPC. The work group is committed to a cooperative and unified effort towards the goal of achieving a level of self-sustaining habitat productivity equal to that which was lost through the construction and operation of the Albeni Falls Hydroelectric facility. At the time that this proposal was developed, a total of approximately 3000 HU's have been protected through Albeni Falls Implementation.

# **d. Project history** (for ongoing projects)

In 1995, the Northwest Power Planning Council adopted the following language "Conduct a NEPA analysis, a habitat analysis, and a land value appraisal of a 2,100 acre wetland/riparian and associated upland parcel in the Lake Creek drainage and Windy Bay area of Lake Coeur d'Alene. This is to be credited for: 1) 250 acres of wildlife habitat losses due to Albeni Falls dam on Lake Pend Orielle (off-site, in-kind mitigation) and 2.) as a resident fish substitution for extensive salmon losses due to Grand Coulee Dam". The program also recommended that BPA purchase the property, begin habitat enhancement activities, and initiate long-term operation and maintenance, and monitoring and evaluation plans.

The compartmentalizing of the NPPC Fish and Wildlife Program into the three different caucuses has played a significant role in the development of this project. Recent attempts have been made to develop a "watershed" component into the Program, however, direct funding for such projects has not been allocated. Dual benefits projects, such as the Lake Creek project, have to be submitted to the two different caucuses to be ranked under two different sets of criteria and mitigation priorities. The Lake Creek Land Acquisition and Enhancement Project is rather unique in that funding for the 2100 acre acquisition came from both the Resident Fish and the Wildlife Mitigation Programs. Upon completion of the acquisition process approximately 1850 acres will be entered into the Resident Fish Program as partial mitigation for impacts associated with the construction and operation of Grand Coulee Dam. BPA will then receive credit for the baseline habitat units, and any subsequent enhancement HU's, associated with the protection and long-term operation and maintenance of the 250 acres of wetland and riparian habitat associated with this project. Despite the need to "compartmentalize" the original project to meet the Program's structure, the Coeur d'Alene Tribe intends to manage the entire project under an integrated and holistic watershed restoration approach.

At the time this proposal was developed, the acquisition process was nearing completion. All appropriate appraisals have been completed and all other pre-acquisition requisites will be completed by March 1999. Upon completion of the acquisition process, the operation and maintenance of the 250 acres of wetland and riparian habitat that are relevant to the wildlife mitigation program will begin. O&M activities that are scheduled to be completed in fiscal year 1999 include securing of the project area, site clean-up, and preliminary habitat evaluation assessments and species inventories. The remaining 1850 acres will be maintained by the fisheries division of the Fish, Water, and Wildlife Program as part of ongoing habitat restoration activities in the Lake Creek Watershed.

The project site will be managed in perpetuity for the primary purpose of providing high quality fish and wildlife habitat.

# e. Proposal objectives

Objective #1: Protect and maintain the baseline habitat units on the project site. The principle task associated with this objective is to operate and maintain 250 acres of wildlife mitigation lands in the mouth of the Lake Creek drainage. All activities will be directed at maintaining the baseline level of habitat units credited to BPA for the acquisition of the parcel. Specific activities will include such things as routine fence maintenance, road and gate maintenance, weed control, fire control, etc. All O&M activities will be coordinated with local agencies to promote the most cost-efficient use of the available resources. This will include close coordination with the Albeni Falls Interagency Workgroup. Once a management plan is completed for the site, it is anticipated that routine monitoring and evaluation efforts will become a major component of O&M activities. All activities will be conducted under the guidance of the, "Guidelines for Enhancement, Operation, and Maintenance Activities for Wildlife Mitigation Projects" document (CBFWA Wildlife Managers, 1998).

Objective #2: Assess the quality and quantity of existing habitat on the project site. Habitat Evaluation Procedures will be used to assess the current value of the project area for a number of target species. Standardized HEP Models will be used to calculate the baseline level of habitat units that BPA will receive for crediting purposes. Habitat units (HU's) are a relative comparison of the overall quantity and quality of an area in terms of its value to a specific wildlife species. In this case, only those target species identified earlier will be used for crediting. Additional information will be collected during the HEP process to help identify any habitat deficiencies that may occur on the site. This information will then be used to assist in the drafting of a project management plan. Routine HEPs (5-year intervals) will be done to help monitor and evaluate the effectiveness of O&M and enhancement activities.

Objective #3: Develop and begin to implement a long-term management strategy. Once all habitat evaluation procedures have been completed, a project management plan will be developed. HEP data will be analyzed to determine the current condition of the site. This information will then be coupled with existing watershed assessments, other land management agencies, and with information collected from a pubic scoping process to determine a desired future condition for the site. This plan will include a detailed description of routine O&M practices and a description of any enhancement opportunities that may exist for the site. A monitoring and evaluation process will be a key component of this plan. A standardized monitoring and evaluation process that is currently being developed by the CBFWA Wildlife Managers will help determine the structure of the M&E procedures.

# Objective #4: Public Outreach

In order for any mitigation program to be effective, a substantial amount of effort must be spent in building relations with the public. Participation in the Lake Creek Watershed

Workgroup (facilitated by the Tribe) is a key to ensuring the long-term success of the project. Program staff will provide informational material to help educate the local public as to the importance of mitigation activities in promoting healthy ecosystems. Other ongoing efforts to be continued include the participation in an environmental education program in local schools, organization of field activities (on project site) for local schools to participate in during "Water Awareness Week", participation in interagency work groups, and assisting in the publication of a quarterly newsletter that summarizes habitat restoration goals, techniques, and accomplishments.

Protection of mitigation lands is a process unto itself and requires considerable time to complete all of the tasks required. Looking for landowners willing to participate in the mitigation program and determining appropriate protection measures can take several months. A significant amount of effort must be spent in identifying project expansion opportunities and in fulfilling the pre-acquisition processes required to bring these expansions to fruition. The requirements of the mitigation program, e.g., appraisals, property surveys, environmental surveys, cultural resource surveys, and title searches are all necessary components of any protection program, however, these all take a substantial amount of time to complete.

# f. Methods

### Planning Methodology

Several key steps are being used to plan and prioritize enhancement efforts in the Lake Creek Drainage. These steps define a process that guides projects from their inception through implementation, monitoring and evaluation. Coordination with Tribal program managers and the Tribal Council is necessary during each step of the planning process to ensure that projects comply with restoration goals and objectives and the management actions of other Natural Resource Department programs. Additional effort is made to ensure consistency with local, State, and Regional land managers whenever possible. Key steps are identified and described below.

- Identify stream reaches needing some level of enhancement based on physical and biological conditions, and prescribe appropriate restoration techniques.
- Prioritize restoration projects using a cost/benefit analysis that considers the potential for long-term ecological recovery and landowner participation.
- Discuss restoration efforts with tribal officials, private landholders, resource managers, and other interested parties, and negotiate landowner agreements.
- Secure and protect management rights to priority areas through a combination of fee-title acquisition, conservation easement, and long-term leasing activities.
- Review past data collection efforts for the project site and collect further baseline information, when needed, to facilitate implementation and effectiveness monitoring.
- Develop project specific goals and objectives that are quantifiable and measurable. These objectives should be consistent with overall program objectives and should facilitate the implementation of monitoring and evaluation procedures.
- Coordinate the implementation of projects with the appropriate regulatory agencies and complete all pertinent applications and permits.

- Implement restoration projects using techniques based on the best available science, which will mitigate for factors that limit the productivity of native terrestrial and aquatic communities and enhance the function of ecological processes.
- Begin monitoring and evaluation procedures that will help determine project effectiveness as it relates to overall program goals and project specific objectives.

This process is consistent with the eight step standardized planning process outlined in the programmatic Wildlife Mitigation Program Environmental Impact Statement (BPA, 1997). These eight steps are as follows:

- 1. Define the area of concern/interest.
- 2. Involve stakeholders.
- 3. Develop a statement of the desired future condition.
- 4. Characterize the historical and present site conditions and trends.
- 5. Establish project goals.
- 6. Develop and implement an action plan for achieving the goals.
- 7. Monitor conditions and evaluate results.
- 8. Adapt management according to new information.

\*Each of these steps are described in more detail in the Wildlife Mitigation Program: Record of Decision document published by Bonneville in 1997.

### *Land Management Methodology*

Past evaluations of stream systems on the Coeur d' Alene Indian Reservation have established the need for implementation of habitat enhancement and restoration projects (Lillengreen et. al., 1993). Initial habitat surveys conducted from 1990 through 1994 identified stream reaches in Lake Creek, Benewah Creek, Alder Creek, and Evans Creek that were severely degraded by past land use practices. The treatment recommendations are presented as a two phase implementation process. Phase 1 emphasizes passive restoration techniques and entails, 1) changing land use practices that are causing habitat degradation, and 2) reestablishing riparian/stream linkages. Phase 2 involves the active manipulation of habitat structure to address site specific problems that remain following Phase 1 implementation. The ultimate goal is to promote, to the extent feasible, the restoration of natural ecosystem functions and processes.

It will be necessary to use both passive and active treatment techniques on lands associated with this project. Over 95% of the lands in the Lake Creek Watershed are in private ownership (KSSCD, 1991). As a result, the protection and conservation of fish and wildlife habitat through continuing land acquisition and easement efforts has been determined to be an appropriate and effective technique for implementing phase 1 restoration. The expansion of the project area through ongoing acquisition efforts is a high priority. However, the effectiveness of this effort is severely limited by the availability of acquisition dollars and the amount of time it takes to fulfill the project submittal processes. Many protection opportunities are lost because of the long turn around time in securing funds from BPA. Having protection dollars more readily available would help substantially in the effort to protect high priority wetland and riparian habitats.

Initial land management efforts involve the identification of the project boundary and the immediate securing of the property to protect it from livestock trespass and to control

public access. The primary technique applied will mostly include fencing and road management efforts. These activities will be completed during the 1999 field season. Once the project area is secured, a baseline HEP will be conducted. Information collected from habitat evaluation efforts will be coupled with information collected from a public scoping process and existing watershed assessments to draft a detailed project management plan. Completion of the project management plan is expected to occur within two years of acquiring and securing the project area. This plan will guide all future land management activities.

Ongoing operation and maintenance efforts will be required throughout the planning process to maintain the integrity of project lands. All O&M efforts will be consistent with the, "Guidelines for Enhancement, Operation, and Maintenance Activities for Wildlife Mitigation Projects" document (CBFWA Wildlife Managers, 1998). Refer to this document for a thorough description of routine activities. Most O&M efforts will be directed at maintaining the security of the project boundary, road and gate maintenance, weed control activities, fire control, and routine vegetation management activities necessary to maintain the baseline level of habitat units. Adaptive management principles will be applied as necessary.

Specific enhancement opportunities and methodology will be outlined in the project management plan. It is anticipated that some enhancement efforts will be necessary to maximize the sites potential. This will most likely include the planting of riparian shrub communities, promotion of black cottonwood and aspen forest, and restoration of priority wetland plant communities. Again, enhancement opportunities will be greatly influenced by the availability of mitigation dollars. If adequate funding is available, enhancement efforts should be completed by 2005. Long-term operations and maintenance and monitoring and evaluation activities will be required on all enhancements for the life of the project.

### g. Facilities and equipment

This is the first wildlife mitigation project for the Coeur d'Alene Tribe. Some new field equipment will need to be purchased for project implementation efforts. It is anticipated that most equipment needs will be met during FY'99. Existing Fish, Water, and Wildlife Program equipment will be used whenever available as a way of reducing new equipment costs. No capital equipment purchases are anticipated for FY 2000. Any unforeseen equipment needs for implementing wildlife mitigation projects would need to be satisfied with BPA dollars. It is expected that expendable field equipment will require periodic replacement.

#### h. Budget

This is the first wildlife mitigation project for the Coeur d'Alene Tribe. As a result, costs associated with this project reflect initial start up costs for implementation of mitigation projects. This includes mitigation staff, field equipment, vehicles, etc. Because this is the Coeur d'Alene Tribe's first project, these costs will be somewhat high when

compared to ongoing projects being implemented by other agencies that have multiple implementation projects. As the wildlife mitigation program expands and more projects come on line, individual project costs are expected to decrease considerably. In addition, project costs and FTE needs are reflective of the effort needed to draft a project management (biologist) plan, implement O&M and enhancement activities (biologist and seasonal technicians), and to expand the project site. It is anticipated that the project management plan will be completed by 2001 and that all enhancement efforts will be completed by 2005. Once a project management plan and enhancement efforts are complete, project costs will decrease accordingly and should include mostly O&M and M&E activities. The FY 2000 budget request of \$140,423 is a 25% decrease from the FY'99 request of \$186,082.

# Section 9. Key personnel

# **Kelly Lillengreen**

Fish, Water and Wildlife Manager

Mrs. Lillengreen has over nine years of professional experience in the evaluation and management of aquatic and terrestrial ecosystems. She currently serves as the Fish, Water and Wildlife Manager for the Coeur d'Alene Tribe. In this position, she is responsible for oversight, coordination and implementation of all fisheries and wildlife projects undertaken by the Coeur d'Alene Tribe. Principle responsibilities include supervision of professional and technical staff, preparation of policy recommendation for Council Action, preparation and approval of implementation and monitoring plans, annual reports, and budgets. In other positions, she has mapped fisheries habitat characteristics, studied fish population characteristics, benthic communities, conducted watershed analysis using Timber-Fish-Wildlife ambient monitoring methodologies, and evaluated the potential impacts of forest management practices on aquatic resources.

## **Education:**

M.S.; Eastern Washington University, Zoology/Fisheries Management; 1993 B.S.; Eastern Washington University; Zoology; fisheries emphasis; 1989

#### **Employment History:**

Years of Experience: 10

Employer— Coeur d'Alene Indian Tribe Dates of Employment— 1994 - Present Title— Fish and Wildlife Manager

Employer— Coeur d'Alene Indian Tribe Dates of Employment—1992-1994
Title—Fisheries Biologist

Employer— Eastern Washington University Dates of Employment—1990-1992
Title—Research Associate

Employer—Eastern Washington University Dates of Employment—1988-1990
Title—Research Assistant

#### **Technical Publications and Presentations:**

Ashe, Becky L., K.L. Lillengreen, J.J. Vella, L.O. Clark, S. Graves, M.R. Barber, G. J. Nenema, A.T. Scholz. 1991. Assessment of the Fishery Improvement Opportunities on the Pend Oreille River: 1990 Annual Report. U.S. Department of Energy, Bonneville Power Administration. Project Number 88-66. March 1991.

Lillengreen, K., T Skillingstad, A.T. Scholz. 1993. Fisheries habitat evaluation in tributaries of the Couer d'Alene Indian Reservation: 1992 Annual Report. U.S. Department of Energy, Bonneville Power Administration. Project Number 90-044. October, 1993.

Lillengreen, K., A.J. Vitale, R. Peters. 1996. Fisheries habitat evaluation on tributaries of the Coeur d'Alene Indian Reservation: 1993, 1994 Annual Report. U.S. Department of Energy, Bonneville Power Administration. Project Number 90-044. September, 1996.

Lillengreen, K., A.J. Vitale, R. Peters. 1998. Coeur d'Alene Tribe project management plan - enhancement of resident fish resources within the Coeur d'Alene Indian Reservation. *In press*: U.S. Department of Energy, Bonneville Power Administration.

# Robert A. Matt

#### **Education:**

B.S.; Wildlife Resources; University of Idaho; 1996

## **Current Employer and Responsibilities:**

Coeur d'Alene Tribe; Wildlife Program Supervisor; 5/1996 to Present Coordination and implementation of all wildlife management activities. This includes the planning and prioritization of habitat and species management activities, budget development, drafting of policy recommendations, and the drafting of annual reports and management plans.

## **Certifications:**

Wildlife Habitat Evaluation Procedures; 1997 Wildlife Capture, Immobilization, and Safety; 1997

## **Expertise:**

Mr. Matt has 3 years of experience in the evaluation and management of wildlife and wildlife habitat. This includes the monitoring and evaluation of species populations, development and implementation of harvest management strategies, habitat evaluation

and restoration techniques, and the drafting and implementation of BMP's for silvicultural and agricultural activities.

# Gerald I. Green

### **Education:**

B.S.; University of Montana; Wildlife Biology/Zoology; 1984

M.S.; University of Idaho; Wildlife Resources; ecology emphasis; 1994

## **Current Employer and Responsibilities**

Coeur d'Alene Tribe; Wildlife Mitigation Biologist; 10/1998

Principle responsibilities include finding mitigation projects, assessing their mitigation value, preparing and submitting proposals detailing these projects, and implementing the projects.

## **Employment History:**

Years of experience: 9

Employer- U.S. Geological Survey; Biological Division; Glacier Field Station

**Dates of Employment--** 1995 - 1996

Title-- Biologist

## **Employer-** Interagency Grizzly Bear Study Team

**Dates of Employment--** 1985 - 1992

Title-- Seasonal Technician

#### **Expertise:**

Mr. Green has over 9 years professional experience evaluating forest and non-forest habitats for their quality and use by wildlife species. In other projects he has supervised the mapping of high elevation forest and non-forest habitats in Glacier National Park to determine the extent of forest pests and diseases and their effects on wildlife, and conducted field research into habitat preferences and use patterns of Yellowstone grizzly bears. He also has extensive experience identifying plant communities and assessing their use by various wildlife species.

#### **Technical Publications and Presentations:**

Green, G. I., D. M. Mattson, and J. M. Peek. 1997. Spring feeding on ungulate carcasses by grizzly bears in Yellowstone National Park. Journal of Wildlife Management. 61(4)1040-1055

Green, G. I., D. M. Mattson, and R. Swalley. In press. Use of rub trees by Yellowstone grizzly bears. Ursus. Paper presented at the 11<sup>th</sup> International Conference on Bear Research and Management. Gatlinburg, Tennessee. April 1998.

Mattson, D. M., G. I. Green, and R. Swalley. In press. Geophagy by Yellowstone grizzly bears. Ursus. Paper presented as a poster at the 11<sup>th</sup> International Conference on Bear Research and Management. Gatlinburg, Tennessee. April 1998.

# **Ron Peters**

#### **Education:**

B.S.; Eastern Washington University; Zoology/Fisheries Management; 1987

M.S.: Eastern Washington University; Fish Pathology/Fisheries Management;1995

## **Current Employer and Responsibilities:**

Coeur d'Alene Tribe; Fisheries Program Supervisor; 5/1996 to Present

Coordination and implementation of BPA funded harvest enhancement projects.

Responsible for all aspects of water quality monitoring and analysis.

Supervision of professional and technical staff

Preparation and implementation of monitoring plans

Preparation of quarterly and annual reports, and budgets.

## **Previous Employment:**

Quinault Indian Nation; Fisheries Biologist; 1992 to 1996

Upper Columbia United Tribes; Research Associate; 1991 to 1992 Eastern Washington University; Research Assistant; 1989 to 1991

#### **Expertise:**

Mr. Peters has over nine years of professional experience in the evaluation and management of aquatic ecosystems. In other positions, he was the lead technical person in charge of management of the Quinault River sockeye salmon run. His duties included collecting, recording, and interpreting information relating to the enhancement and preservation of the Quinault River sockeye salmon run. He was also lead investigator in charge of the Quinault Indian Nation Water Quality Laboratory where primary duties included oversight of all activities, development of experimental design, quality control, and data analysis.

## **Technical Publications and Presentations:**

Peters, R. 1994. Hydroacoustic estimate of escapement of Quinault River sockeye salmon. Presented to North Pacific International Chapter American Fisheries Society. March.

- Peters, R. 1995. Ecological investigations into the life history of the nematode <u>Eustrongylides</u> sp. (Nematoda: Dioctophymatoidea) found in Franklin D. Roosevelt Lake, WA. M.S. Thesis. Eastern Washington University. Cheney, WA. pp. 83.
- Lillengreen, K., A.J. Vitale, R. Peters. 1996. Fisheries habitat evaluation on tributaries of the Coeur d'Alene Indian Reservation: 1993, 1994 Annual Report. U.S. Department of Energy, Bonneville Power Administration. Project Number 90-044.
- Lillengreen, K., A.J. Vitale, R. Peters. 1998. Coeur d'Alene Tribe project management plan enhancement of resident fish resources within the Coeur d'Alene Indian Reservation. U.S. Department of Energy, Bonneville Power Administration. Project Number 90-044.

Peters, R. and A.J. Vitale. 1998. Supplementation Feasibility Report. U.S. Department of Energy, Bonneville Power Administration. Project Number 90-044.

# Angelo J. Vitale

#### **Education:**

B.S.; University of Idaho; Biology/Botany; 1991

## **Current Employer and Responsibilities:**

Coeur d'Alene Tribe; Restoration Project Coordinator; 10/95 to Present

Coordination and implementation of BPA funded habitat restoration projects.

Supervision of technical staff

Preparation of annual implementation and monitoring plans,

Preparation of annual reports, and data reduction and analysis.

## **Previous Employment:**

Integrated Resource Management; Project Scientist; 1995

EA Engineering, Science, and Technology, Inc.; Fisheries Scientist; 1991 to 1995

University of Idaho; Research Assistant; 1990 to 1991 Idaho State University; Research Assistant; 1988 to 1989

#### **Certifications:**

Designing and Negotiating Studies Using IFIM; 1993

Watershed Analysis Methodology; 1995

Wildlife Habitat Evaluation Procedures; 1997

### **Expertise:**

Mr. Vitale has over nine years of professional experience in the evaluation and management of aquatic and terrestrial ecosystems. In other positions, he has conducted instream flow analysis for site specific studies and basin wide projects, mapped fisheries habitat characteristics, studied fish population characteristics, conducted watershed analysis using Timber-Fish-Wildlife ambient monitoring methodologies, and evaluated

the potential impacts of forest management practices on aquatic resources. He also has extensive experience identifying, mapping and interpreting plant community assemblages and conducting site specific surveys for candidate threatened and endangered wildlife species.

#### **Publications and Presentations:**

Peterson, C.R. and A.J. Vitale. 1989. Measuring the activity patterns of free-ranging animals with radiotelemetry. *American Zool.* 29(4):43A.

- Lillengreen, K., A.J. Vitale, R. Peters. 1996. Fisheries habitat evaluation on tributaries of the Coeur d'Alene Indian Reservation: 1993, 1994 Annual Report. U.S. Department of Energy, Bonneville Power Administration. Project Number 90-044. September, 1996.
- Vitale, A.J. 1997. Restoration planning and implementation: Using watershed analysis to identify effective restoration tools. Presented at Landscape Connections: Restoring Ecological Integrity in the Inland Northwest, Washington State University, Pullman, WA.
- Lillengreen, K., A.J. Vitale, R. Peters. 1998. Coeur d'Alene Tribe project management plan –enhancement of resident fish resources within the Coeur d'Alene Indian Reservation. U.S. Department of Energy, Bonneville Power Administration. Project Number 90-044.

Peters, R. and A.J. Vitale. 1998. Supplementation Feasibility Report. U.S. Department of Energy, Bonneville Power Administration. Project Number 90-044.

# Section 10. Information/technology transfer

- 1. The technical information resulting from this project (and its components tasks) may be distributed in the following ways:
  - a. Where applicable, task specific, annual reports will be submitted to Bonneville consistent with the contract requirements and Bonneville will distribute copies to all individuals and agencies on its mailing list.
  - b. Project summaries may be submitted to StreamNet and made available to the public via the Internet.
  - c. As an element of the CDA Tribe, Fish, Water & Wildlife, the objectives and findings of this project may also be entered into the CDA Tribe home page on the Internet. The kind of information posted to the CDA Tribe home page will differ somewhat from that posted to StreamNet. Specifically, the CDA Tribe Internet site will contain more detailed and site-specific information than that in StreamNet, which has a regional perspective and therefore aggregates data in standardized units of larger geographic scope.

2. Dispersal of information regarding this project will be through other avenues, as well, as, annual reports submitted to Bonneville Power Administration. Other avenues include Wildlife Caucus review (CBFWA), periodic meetings with the Albeni Falls Interagency Workgroup, open houses, and public presentations in the NPPC process. Furthermore, significant results can be presented at the CBFWA Project Review Workshops.

# Congratulations!